

# **MANUAL OF INSTRUCTIONS FOR THE PREPARATION OF AS-BUILT PLANS**

**November 4, 2009**

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# I

## **INTRODUCTION**

As-built plans are the final product of an accurately red-lined and up to date set of as-let construction plans. They represent the work performed in the field by clearly and accurately documenting, in red, any changes which occurred during construction. Each office shall have a set of plans specifically for the purpose of recording as-built information. This set of as-built plans is to be kept up to date through out the entire duration of the construction project. Any modifications, additions or deletions made during construction shall be shown on the as-built plans as soon a practical. Any revised sheets that are printed and sent to the field from the construction office shall, upon receipt, be placed in the as-built plans and the sheets they replace are to be removed. It is imperative that as the project is constructed, so are the as-built plans.

The resident construction engineer shall produce and deliver to the as-built plans office the final as-built plans for each contract within 45 days of project acceptance. All deviations from plans are to be shown in red. They shall be legible, true to scale and line thickness. The as-builts shall show all approved revisions to the contract design including but not limited to: revised roadway profiles and cross sections, revised typical sections, revised drainage installations, any changes to the demolition and removal items and any other changes to the original design.

In submitting as-built plans, the resident construction engineer shall complete FORM AB205 or AB206, whichever is applicable, and submit the form with the required deliverables to the As-Built Engineer. The items and notes on these forms that apply to the project as well as the Notes to the Resident on the AB201 establish the standards and requirements for as-built plans. All this information is found on the website at the following link:

<http://www.scdot.org/doing/default.shtml>

Requirements for As-Built Plans are subject to change as demands change and technology improves. Please utilize the web site for all information, forms and cover sheets. These will be updated as deemed necessary. All residents and their assistants will be notified when changes have been made. For this reason RCE's shall not pre-print numerous copies of these forms and file them, only print them out as needed.

## II

### **GENERAL PROCEDURES**

Many projects can be identified as typical road and bridge projects. Many do not fall under this category and each will be addressed independently. Some projects do not have plan sheets, only contracts; these will be discussed as well. Some projects will have to be evaluated as they are let or constructed because they fall under an even different category. The bottom line for as-built plans is that they are to mirror the as-let plans as closely as possible. The difference shall be limited to any revised sheets added during construction and any other required sheets added at the end of the as-built plans.

A typical road project is let using full size plans with a title sheet and index. It will have one or more road segments and intersections, grading and drainage, new construction or widening. A typical bridge project is let using full size plans with a title sheet and index and will include one or multiple bridge structures. Some road plans contain a bridge bound within; some road plans contain a bridge bound under separate cover. All these scenarios will be addressed in the examples section of this manual.

The as-built plans shall be neat, legible and of the correct size. Bridge projects and any road projects which include plan, profile and cross-section sheets shall be full size. If the job was let with full size plans (22" X 36"), the as-builts shall be full size. All revisions to the original plans shall be delineated in red, located properly on the drawing; they shall be legible, true to scale and line thickness. Regardless of form or content, each set of as-built plans shall reflect the final product of what was constructed in the field by red-lining the plans. Do not print plans off the plan library for as-builts; they are not the correct size. Residents shall verify the as-builts for each project are of the correct size. If there is any question, contact the as-built engineer.

Every as-built plan, profile and cross-section sheet shall be designated as such by stamping "AS-BUILT" in black in the upper right area of the plan sheets. The as-built plans shall be bound in the same manner as they were let, not combined. In other words, if a project includes road and bridge work and each is bound separately, keep them separate for as-builts, each with its own AB201 cover sheet.

The resident construction engineer is required to:

1. **Maintain a set of as-built plans in the office, updated regularly from the beginning of construction until acceptance of the project. This set is solely for the purpose of as-built information and should not be used in the field for construction.**
2. **Maintain a current AB201 coversheet regarding any revised sheets which have been removed and replaced. This is documented just below the index.**
3. **Use Site Manager and plan library information to verify all change order information has been transferred to the as-built plans and the proper sheets have been inserted.**
4. **Use Forms AB205, AB206 and the Notes to the Resident on the AB201 as a checklist when preparing as-built plans.**
5. **Contact the as-built engineer prior to submitting as-builts to discuss any unique situations which may have occurred and how they were addressed and documented. This also gives the RCE an opportunity to add anything which may have been overlooked prior to submitting the as-builts.**

### III

## **THE AB201 COVERSHEET**

### **A) The Index**

Indexing of the AB201 is often misunderstood. This index is not meant to be a repeat of the Title Sheet Index. This index is only to show what has been added to the as-built plans and where it is in the plans. There shall be no re-numbering of plan sheets. If revised sheets are printed due to design changes and distributed post-letting, they shall be incorporated into the as-built plans, as they are numbered. The only numbering or labeling of sheets done by the RCE's office are sheets which have been added to plans by that construction office. Examples of these would be pile logs, drilled shaft logs, borrow pit information, etc. These will be named PL for Pile Logs, DS for Drilled Shaft Logs, BP for Borrow Pit Information, UNC for Unclassified Excavation etc... The examples section will further explain use of the index.

For example; a 100 page set of bridge plans with 3 pile log sheets would be indexed:

<b><u>SHEET</u></b>	<b><u>DESCRIPTION</u></b>
<u>AB201</u>	<u>COVERSHEET</u>
<u>1 – 100</u>	<u>BRIDGE PLANS</u>
<u>PL1 – PL3</u>	<u>PILE LOGS</u>

### **B) REVISED SHEETS INDEX AND WORKING PLAN TITLE SHEETS**

The area below the index is where the revised sheet information is documented. As stated on the AB201, the resident is to list all sheets that have been revised and replaced due to design changes which occurred after the letting. List in this area the sheet numbers which have been replaced due to design changes. Briefly describe the revision, show the revision number and date. If a sheet was revised and replaced more than once, show this in the index. See example below where sheets 3-8 were replaced on 8/31/09 for tie rod revisions, then sheets 6 and 7 were again replaced on 9/5/09 due to block out revisions.

<b><u>SHEET NUMBER(S)</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>REVISION NUMBER</u></b>	<b><u>DATE</u></b>
3- 8	TIE RODS	REV #1	8/31/09
6, 7	BLOCK OUT	REV#2	9/5/09

“Working Plans” title sheets are produced when sheets are revised after letting. Only the latest working plan title sheet along with the original title sheet should be included in the as-builts. Dates of previous working plans title sheets are to be shown on the last title sheet produced. In this example, the plans shall include the original title sheet along with working plans title sheet dated 8/31/09 and 9/5/09 just below it. This process continues for as many new title sheets have been replaced. See Section V Post-Letting Revisions for more information. If the plans have been revised 5 times, there should be 5 dates on the working plan title sheet submitted with the as-builts. The other 4 shall be removed.

### **C) NOTES TO THE RESIDENT**

These notes are themselves a checklist for the RCE to use in conjunction with forms AB205 and AB206. This list covers almost every item regarding a typical set of as-built plans. Once the set of as-builts has been put together using all the resources available, these notes serve as a final check list to verify plans are complete, accurate and ready to be turned in. RCE's shall contact the as-built engineer prior to submission of as-built plans. This allows us to schedule a delivery method as well as discuss any intricacies of the project.

### **D) LIST ANY EXCEPTIONS BELOW**

This section allows the resident to make any comments concerning any irregularities or special circumstances surrounding that particular set of as-built plans. If there are pertinent calculations which have been stored in the job files, make note in this area as to what the calculations are and where they have been filed. If roadwork has been added or deleted mid-contract for any reason, this would be a good place to note this information and refer to the documentation which authorized these changes.

### **E) PRIMARY TYPE OF CONSTRUCTION**

This section documents the primary purpose of the project. If it's a typical road project with drainage, grading, asphalt paving or widening etc. simply check "ROAD". If it's a bridge project which includes other incidental work, simply check "BRIDGE". Even if these projects include some full depth patch, resurfacing or guardrail work it is still classified as road or bridge.

Other projects such as full depth patch contracts may contain pavement marking, but if the primary purpose of the work is full depth patch then this is the only thing that needs to be checked. If pavement marking, signal, signage, guardrail is the primary purpose of the project, simply check which ones are appropriate.

### **F) TOTAL SHEETS**

This is the total number of sheets, including the AB201 that are included in the set of as-built plans. The title sheet usually gives the number of sheets in the plans. Take this number, add to it any sheets added due to revisions and any sheets added at the end of the plans such as pile logs, borrow pits etc. Place this number in the top right corner of the AB201. The total number of sheets is used to charge the public for copies of the as-builts.

## IV

### **RED-LINING PROCEDURES USING THE AB205 AND AB206**

The AB205 and AB206 forms are self explanatory. Form AB205 is used for standard road and bridge construction and Form AB206 applies to the other miscellaneous projects. Follow the check lists and the notes corresponding to them and most questions concerning red-lining are addressed. This section will expand on some of these items for further clarity.

The RCE shall use these checklists when preparing a set of as-built plans. The RCE and Project Manager are required to sign and submit this form with these plans as an acknowledgement that the as-built plans are complete and accurate. This form will be scanned into the plan library along with the as-builts for the corresponding project; therefore it is important that the appropriate information is reflected on the forms.

Red-lining a set of plans is a task that requires both an intimate knowledge of how the project is constructed and an ability to depict this information clearly on the plans. There is no “one way” to red line plans and one must use engineering judgment and common sense in portraying the as-built information based on the space available on the plans. The bottom line is “can someone unfamiliar with the project easily determine what was actually constructed on the project by looking at the as-built plans?”

#### **A) Form AB205 AS-BUILT PLANS CHECKLIST (SOME ITEMS ARE SELF-EXPLANATORY)**

##### ITEM 2

Additional design sheets are sheets which have been produced after the letting and have been sent to the resident by the Construction office and have been added to the as-builts. These sheets are to be indexed in the appropriate area on the AB201. All revised sheets are to be inserted into the as-built plans immediately upon receipt by the Resident Engineer. The sheets they replace are to be removed at the same time and all red-line information shall be transferred to the new sheets.

##### ITEM 3

During construction it is common for moving items as well as removal and disposal items to be added to or deleted from the contract. These additions and deletions are to be noted on the moving item or removal and disposal item plan sheets. Simply write in red items added to the plans and strike through items which were deleted and write “deleted” next to the item.

##### ITEM 4

AS-1 sheets are no longer required to be turned in with the as-built plans. These sheets are to be attached to the final estimate when they are complete. Whether or not portions of the AS-1 sheets have been attached throughout the project, the final completed AS-1 is to be attached to the final estimate in Site Manager.

## ITEM 5

As-built plans are a red-lined set of as-let plans with revised sheets inserted and any additional information added to the end of the plans and indexed. To make these plans functional and information easily accessible, the as-built plans should mirror the as-let plans as closely as possible. The only difference being revised sheets and additions to the plans. As stated, the plans are scanned when received at headquarters, therefore, do not use destructive binding, and punch holes or place in folders. Simply use binder clips if necessary and submit in this form. If no sheets were revised and none added to the plans during construction, red-line, stamp "AS-BUILT" on each sheet and submit. The index shall show any revisions and additions to the plans.

## ITEM 6

Cross-section sheets with no changes and built within construction tolerances shall be stamped "AS-BUILT", no other marking is required. If the project was built out of tolerance with regard to cross-section grades and accepted in place, strike through these grade points and write in red the as-built grade information.

Any revisions to the cross-sections shall be shown in red to the proper scale and line thickness. In cases where the cross-section has changed significantly, the old cross-section shall be X'd out, in red, and the new cross-section drawn, in red, along with the as-built grades. If the profile grades have been revised, show this in red on the profile drawings.

Muck and undercut shall be highlighted in blue on the plan and profile sheets as well as the cross-section sheets. A note shall be placed on the plan and profile sheet referring to the cross-section sheet number which depicts this as-built information. The resident engineer shall also write, in blue, the muck or under-cut quantity below the unclassified quantities on the cross-section sheets.

## ITEM 7

Red-line every drainage structure on the plans either with a check to verify built per plan or drawn on the plans, in red, to the proper scale and line thickness along with the as-built information. A majority of red-line changes occur in the drainage system due to necessary adjustments made in the field. The rule of thumb for documenting these changes is to use whatever information you can and any space available to depict the as-built information. Draw to scale and proper line thickness the relocated structures and "X" out "in red" what was not built per plan. Leader lines and pipe lines should not be the same line thickness. If the plans contain drainage plans sheet, red-line these sheets. If not, red-line this information on the plan/profile sheets.

## ITEM 8

Most bridges are built per plan and only require a black "AS-BUILT" stamp on each sheet, placed in the upper right area of the plans. In situations where structures were "modified" for any reason, red-line the change on the bridge plans. Refer to any correspondence relating to the change such as "see change order #3" or make brief



explanation as to why the change occurred. An example of this would be “additional block-out provided to accommodate future utilities, see letter dated 9/5/09”.

## ITEM 11

A proper set of as-built plans contains the latest “working drawing” title sheet, the original title sheet and the latest revised sheets. These revised sheets are to be indexed on the AB201 in the proper location. See “Revised Sheets Index” in Section III, B.

### **B) Form AB206 MISC AS-BUILT PLANS CHECKLIST**

This form serves as a checklist for many other miscellaneous projects. The best way to address these projects is to refer to the “EXAMPLES, SECTION VII” of this manual. It is important to understand as technology and requirements change, so will the as-built requirements. So, as stated in the introduction “only print these forms out when they are ready to be utilized”. As a rule of thumb, print out the AB201 and the AB205 or AB206 at the beginning of a project and use them for that project. Typically whatever the requirements are at the beginning of the project will be applicable for the as-builts. If any changes occurred during the project, these will be addressed on case by case bases.

If the plans are changed, Engineering Directive number 37 shall apply. See section V “Post Letting Revisions” of this manual. If a contract contains Road Summary Reports, Individual Section Summaries and Strip Maps, they are considered “job site record documents”. Per Engineering Directive number 37 these sheets are to be sealed by the P.E. responsible for changes to the contract and this seal only applies to the changes made to these documents. The sheets which need to be sealed are ones in which road segments have been increased or decreased and where roads have been added or deleted from the contract. See item 7 below for further explanation.

## ITEM 7

Contracts that contain Road Summary Reports, Individual Section Summaries (ISS) and Strip maps only with no accompanying set of plans, shall be addressed as follows:

Use the 8 ½ X 11 AB201 found on the website - this is the cover sheet. The next sheet shall be a photo copy of the front of the contract, followed by the Road Summary Report, Individual Section Summary and Strip Maps. The order in which the ISS’s and strip maps appear in the as-builts shall be the same order which they appear on the Road Summary Report.

If built per plan, place a check to the left of the mileage number on each road segment on the Road Summary Report. If a segment was deleted from the contract, strike through it in red and write “deleted” next to it. If a road or segment is added to the contract, show this in red on the Road Summary Report by writing in red all required information. The RCE shall have on file all authorization correspondence relating to additional work performed on a contract. All additional work performed must be authorized, and the documentation shall be accessible in the job files.

The Individual Section Summary Report shall be red-lined to show as built quantities placed on each road segment. This shall consist of striking through and writing in red the actual quantity of each item placed on each road section. If one road is broken up into several sections, place all the information on the first section and refer back to that section on subsequent sheets. The RCE shall clearly show each road segment, in red, on the strip maps prior to submitting.

The beginning and ending mile points (BMP, EMP) on the ISS shall be checked in red if the work started and ended at these locations; else the resident shall strike through and write in red the actual beginning and ending mile points of the work and seal or have sealed as required. Any discrepancies in lengths between the ISS, Road Summary Report and Strip Maps must be resolved. This information creates the as-built plans; therefore it must be accurate. Upon completion of the project the resident shall make sure all information on the strip maps, the Road Summary Reports and the Individual Section Summaries all match. In other words the mileage on the Road Summary Report shall match the Individual Section Summary and the length on strip map as well. If a quantity on one of these sheets changes, it shall be changed on all 3 sheets. Conflicting or incomplete information regarding the work performed on these projects will have to be corrected by the RCE's office. Any changes will require a PE stamp on those sheets. (See **engineering directive 37**)

To summarize, The RCE shall submit an AB201, a copy of the cover of the contract, Road Summary Reports, Individual Section Summaries and Strip Maps. All information regarding work performed shall match on all sheets.

It is important to understand these contracts are put together by different departments and the programs and formats being utilized may change over time. For this reason it is important to contact the as-built engineer prior to submitting as-builts to verify the information is complete and accurate.

The red-line quantities on these contracts are the as-built plans. This information will be used by planners and designers who will access the plan library and use the information for the preparation of future projects. The accuracy and indexing of these plans is just as important as the red-lining of any other road or bridge project. See "EXAMPLES" for further clarification.

## V

### **POST-LETTING REVISIONS**

Revisions play an important role in as-built plans. There are essentially two categories of revisions to as-built plans that the resident construction engineer is responsible for once the project is let.

The first category is red-line revisions made to the plan sheets due to conditions which arise in the field. These red-line revisions are made to the original plan sheets and these original sheets are submitted as the as-built plans. Forms AB205 and AB206 give detailed information regarding red-line procedures and the Notes to the Resident on the AB201 are a summation of requirements as well.

Projects let as of September 4, 2007 are subject to the requirements of Engineering Directive #37. Specifically regarding as-built plans the directive states:

***If any design changes occur during construction, the plan sheets (or any other “job site record document” with a seal) revised after award of contract shall include a complete accounting and detail of the revisions and design changes. The P.E. responsible for the revisions shall seal each altered plan sheet (or any other “job site record document” with a seal). This documented information is to be part of the As-Built Plan requirements. More detail concerning this requirement can be found in Engineering Directive #37.***

Link to directive: <http://www.scdot.org/doing/EDM-Live/EDM37.pdf>

The second category is construction changes made by the designer in which new sheets are produced and are to replace the original sheet. These sheets will be labeled “Construction Change - Sheet Provided after Letting”. These revised sheets will be forwarded from the Director of Construction office to the appropriate District. When the resident construction engineer receives these revised sheets, immediately remove the original sheets from the set of as-builts, replace them with the revised sheets and transfer all existing red-line information to the revised sheets.

Each “set” of revisions will also include a new title sheet labeled “Working Plans” with the latest date of the revisions. The resident engineer shall include in the as-builts the original title sheet along with the most recent “Working Plan” title sheet which includes dates of all previous working plan title sheets produced. This should already be shown on each working plan title sheet. If these dates are not shown, the resident shall write them on the most recent working plan title sheet.

The RCE is urged to review change orders in Site Manager prior to submitting them to the as-built engineer. This is a good indicator and reminder of changes which have occurred during the project and should be reflected on the as-built plans. The RCE shall also check the plan library against the set of as-builts to verify the proper plan and title sheets are included.

## VI

### EXAMPLES

#### A) Road Construction Projects

This is the typical road construction project with no bridge associated with it. Form AB205 applies to these projects. Place an AB201 on the front of the as-built plans and add any additional sheets at the end of the plans. Note any sheets which were revised and replaced during construction in the proper place on the AB201. The index would read as follows if borrow pit information was added to the plans and the last sheet number was EC5:

AB201	COVERSHEET
1 – EC5	ROAD PLANS
BP1 – BP3	BORROW PIT INFORMATION

#### B) Bridge Construction Projects

This is the typical bridge construction project with no roadwork associated with it. Form AB205 applies to these projects. Place an AB201 on the front of the as-built plans and add any additional sheets at the end of the plans. Note any sheets which were revised and replaced during construction in the proper place on the AB201. The index would read as follows if the bridge had piles and drilled shafts:

AB201	COVERSHEET
1 – XXX	BRIDGE PLANS (XXX represents last sheet of plans) ie 100 or EC5
PL1 – PL4	PILE LOGS
DS1 – DS5	DRILLED SHAFT LOGS

#### C) Bridge Construction Project with a Road, Bound as One Set with 2 title sheets

This is a bridge project with approaches or some road work associated with it. Form AB205 applies to these projects. Place an AB201 on the front of the as-built plans and index each major component of the plans. In this case you have a bridge construction project with a road segment or approaches included. Each of these components has a title sheet and they were bound together as one set. If the road had a borrow pit and the bridge had pile logs and drilled shafts which require the AB207, place all added sheets at the end of the plans and index them. See next page for an example of this type of project.

The index for the above example would read as follows.

AB201	COVERSHEET
1-50	BRIDGE PLANS
1-40	ROAD PLANS
BP1 – BP2	BORROW PIT
PL1 – PL 3	PILE LOGS
DS1 – DS2	AB207 DRILLED SHAFT LOGS

D) Road Construction Project with a bridge, Bound as One Set

Same as “C” above, place an AB201 coversheet on the front, index major components and any other sheets added to the plans.

E) Bridge and Road project bound separately

Place an AB201 on the front of each set and index each set independently.

F) Various types of Resurfacing, Widening and Full Depth Patch Projects

A typical index would look as follows on a strip map contract:

AB 201-----COVER SHEET  
1-----FRONT COVER OF CONTRACT  
2-----ROAD SUMMARY REPORT  
3-45-----INDIVIDUAL SECTION SUMMARIES AND STRIP MAPS  
46-50-----ROADS ADDED TO CONTRACT

These sheet numbers can be placed on the sheets by the RCE once the as-built package has been put together.

Be sure to show on the Road Summary Report any roads added to the contract or strike through and roads which were deleted. Make sure all documentation for these changes are available in the job files. Alterations such as adding or deleting roads will require a PE’s Stamp.

These types of projects come in more than one format. Some contracts come with a set of plans and some just a contract. Some contracts may specify what work is to be done on specific sections of roads while some contracts leave this open ended to be determined in the field. The road list is often altered by either adding or deleting road segments or shortening or lengthening as deemed necessary. This is the information that needs to be represented on the Individual Section Summaries.

Regardless of the form the project is let, the following rule of thumb applies: As-built plans should be similar in form and content to the as-let plans along with any additional pertinent information regarding changes, additions or deletions. Therefore, in a case where the only plans are in the form of an 8 ½ X 11 contract, then the as-built plans shall be completed and submitted as an 8 ½ X 11 package red-lined as directed by Form AB206 with an 8 ½ X 11 AB201 properly indexed. If the contract came with a set of plans, then the plans will be red-lined and submitted as the as-builts.

The indexing of the AB201 on projects which come only in the form of a contract is very important as these are scanned in as multi-page pdf’s. Individual sheets are not indexed in the plan library like other full size sets of plans. For this reason, the index needs to show what information has been added and where it is. All additions to the plans shall be at the end of the original set and indexed accordingly.

Show on the Road Summary Report the road segments in which work was done per plan by placing a red check by that road. Show in red on the Road Summary Report any roads that were added to the contract. If any roads or segments were deleted, this shall be noted by striking a red line through the road name or segment and writing “deleted” next to it.

Show clearly on the strip map, in red, the beginning and ending points of the segment which work was performed. Place the actual quantities, in red, next to the contract quantities whether they are listed on the Individual Section Summary or the Strip Map. In cases where one road is broken into multiple segments, the quantities can be shown as a whole on one sheet with references to the information on the other sheets.

The Roadway Summary Reports and Individual Section Summaries contain vital information regarding these projects; therefore it is important to index these pages for future reference. Specifically show where the Road Summary Report is and then show the range of pages for the ISS’s and Strip Maps. If additional information has been included such as added road sections, it is important to index this on the AB201. Adding, deleting or altering road segments which modify the original contract will require a PE seal.

#### G) PAVMENT MARKING PLANS

Pavement marking plans can come in ½ or full size plan sheets. In either case the as-built plans will be the same size and type as the as-let plans. These plans may be for paint, thermo, raised pavement marking or a combination of all the above. These plans are to be red-lined the same as any other typical road plans would be by showing any changes on the plans in red and to scale.

Note in red items which were changed, added or deleted from the plans. Briefly explain the reason for the change. If there are authorization letters being referenced, note these on the AB201 in the index. If there are no changes to a plan sheet, simply stamp “AS-BUILT” in black on the plan sheet in all caps approximately 1/2” X 2” in the upper right area of the sheets. Adding, deleting or altering road work requires PE seal.

In the case of statewide projects or multiple county projects which include large numbers of roads with numerous items of work being performed, the information may come in the form of a spreadsheet. In these situations, strike through the plan quantity in red and write in the actual quantity placed. If no lists or spreadsheets are supplied in the contract, use the spreadsheet on the as-built web site to record the work performed. This spreadsheet may be manipulated to incorporate any specific information that needs to be shown on the as-built plans.

#### H) SIGNAGE AND GUARDRAIL PLANS

Signage and Guardrail plans are treated the same as pavement marking plans. If built per plan stamp AS-BUILT on the plan sheet. If any items are moved, added, extended or deleted, show this in red on the plans with a brief explanation then refer to any authorization correspondence and index this information on the AB201. Adding, deleting or altering road work requires PE seal. Show on the index the sheet range of the roads worked on.

In the case of statewide projects or multiple county projects which include large numbers of roads with numerous items of work being performed, the information may come in the form of a spreadsheet. In these situations, strike through the plan quantity in red and write in the actual quantity placed.

If the contract contains a road list, specify that the work was performed per contract on each of the roads listed. If roads were added or deleted, refer to documentation. If additional work was performed on a road, again document the work and give brief explanation for the change. Adding, deleting or altering roads requires PE seal.

#### I) ON-CALL PROJECTS, EMERGENCY REPAIRS ETC.

These projects will be handled on a case by case basis. The resident engineer on these types of projects shall contact the as-built engineer to determine the best way to represent the as-built information.

Again, most of these types of projects will be scanned into the plan library as multi-page pdf's. It is important to index the AB201 as clearly as possible. Unlike a regular set of plans which is not to be re-numbered, once the as-built packet is put together the sheets can be numbered by the RCE and these numbers can be used in the index. The Road Summary Report is especially important as it shows the list of roads on which work was performed.

## VII

### **OUTSIDE AGENCY MODIFICATIONS**

The plans library is SCDOT's archive for all road and bridge plans of highways on the state highway system. When projects are developed, plans prepared and let in a highway monthly letting, the as-let plans are placed into the plans library through the typical project development process. Upon completion of the project, the as-built plans are submitted to the as-built engineer to be reviewed and forwarded to plans storage office for scanning into the plans library. The as-built plans are the as-let plans red-lined with all field revisions and constructed features verified on the plan sheets.

Changes to the state highway system by any other means also need to have their plans placed in the plans library for future reference. This includes but is not limited to: encroachment permit projects, enhancements, procurements, inter-governmental agreements (IGA), local public agency (LPA) projects and any other agency, private or public, making changes to the existing highway system. When as-let plans are provided, the person or agency responsible for the work shall supply the SCDOT As-Built Plans Office in headquarters a set of as-built plans which meet the requirements of this specification. Regardless of whether or not as-let plans are provided, when any changes are made to the ROW or within existing ROW, the as-built plans office is to be notified so the changes can be documented in the plans library. Once notified, the as-built engineer and the person responsible for the work can determine what will best represent the work performed in the field. The as-built engineer will then review and forward to the plans storage office for archiving.

The person or agency responsible for the work being performed on any portion of the state highway system is encouraged to contact the as-built engineer's office at any time during the project's duration to discuss the requirements regarding as-built plans.

The link below will take you to the SCDOT internet page "Doing Business with SCDOT". Here you will find the link for the As-Built Plans website. The manual and all forms on this website are available to be downloaded in pdf format for the use of any agency performing work on the state highway system. The manual, AB201 coversheet and all forms provide the requirements for SCDOT as-built plans.

<http://www.scdot.org/doing/default.shtml>



## VIII

### **CONCLUSION**

As-built plans are the final product of an accurately red-lined, properly revised and up to date set of as-let plans. They represent all work performed in the field whether it was built per plan or revised. Their effectiveness depends on the accuracy of the red-line information and the proper indexing of revisions or additions to the plans. As-built plans shall include the AB201 cover sheet, the original title sheet and the latest “Working Plan Title Sheet” if any were produced.

Please contact the as-built engineer at any time during a project to discuss as-built requirements and any unique situations not covered in this manual. A call or email gives the RCE and the as-built engineer an opportunity to discuss any of these particular situations and verify the plans are complete and ready for submission.

As-Built Plans are scanned into the plan library upon receipt and acceptance by the as-built engineer. They will be viewed by multiple entities both from within SCDOT and outside the agency. They will be called upon in the future for reasons ranging from information needed for new construction, maintenance issues, contractor disputes, law suits and various other reasons. They may be called upon as a legal document at anytime in the future, therefore it is imperative they are legible, complete and accurate.

As noted in this manual, any agency, public or private, performing work on the state highway system must adhere to the specifications regarding as-built plans and is responsible for obtaining what ever documents are necessary to satisfy the requirements of the as-built plans office.